

TOBACCO INDUSTRY RESEARCH COMMITTEE  
150 EAST FORTY SECOND STREET NEW YORK 17, N.Y.

#157R1  
(\$157 activated 7/1/57)

Application For Research Grant

cf #72R1  
Activated 7/1/55  
Renewed 7/1/56

Date: April 7, 1958

1. Name of Investigator: R. H. Rigdon, M. D.
2. Title: Professor of Pathology
3. Institution & Address: The University of Texas Medical Branch - Galveston, Texas
4. Project or Subject: EFFECT OF TOBACCO TAR AND OTHER CARCINOGENIC AGENTS ON THE RESPIRATORY TRACT OF THE DUCK

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5. Detailed Plan of Procedure (Use reverse side if additional space is needed):

We have developed the technique within the past year by which we can put large quantities of carcinogenic agents into the respiratory tract of the duck. We have put as much as 270 ml of saline into the larynx of our adult ducks within an interval of two hours. By using tween 80 we can put a suspension of carcinogenic agents into the lungs that we formerly could not.

We are completing a study in which we are to establish how particulate materials leave the respiratory tract. This is important since the duck does not have lymphoid nodules like mammals and phagocytosis does not occur in the duck, as we know it in mammals.

Sodium fluorescein has been found to pass immediately from the respiratory system into the blood stream. This fluorescent material can be demonstrated in the liver, gallbladder and lumen of the intestinal tract. No doubt there are other agents that will be rapidly eliminated from the lungs in a similar manner.

We would use the above technique and put tobacco tar down into the respiratory tract and observe its effect on the lung tissue and also see if it can be followed into the liver and bile by the use of the fluorescent techniques we have developed.

We now have a group of ducks given large amounts of methylcholanthrene in the above manner. These will be observed for another year. We would like to repeat these studies using other carcinogenic chemicals such as benzpyrene.

If we find that nicotine produces a major problem in our experimental study, we will consider using some of the techniques of removing it from tobacco tars.

Additional information may be learned from this study referable to the reaction of the respiratory tract. Although such experimental studies may not answer specific problems in man, I do think we need to compare the effects of agents on the skin, in the gastro-intestinal tract and in the respiratory tract of a specific host.

It is this particular problem we have been developing during the past several years. We would like to continue this phase of investigation. What occurs in the skin may not occur in the lungs of the same animal. Our results so far support this opinion.

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6. Budget Plan:

Salaries	\$3,090.00
Expendable Supplies	1,200.00
Permanent Equipment	688.50
Overhead	300.00
Other	\$5,278.50
*This includes \$67.50 O.A.S.I.	
and \$22.50 W.C.I.	

7. Anticipated Duration of Work: **One year**

8. Facilities and Staff Available: **Dr. Rigdon's Laboratory**  
**Present staff adequate to carry on this problem**

9. Additional Requirements: **None**

10. Additional Information (Including relation of work to other projects and other sources of supply):

**The U.S. Public Health Service is continuing its grant to enable me to study cancer in the duck produced by carcinogenic agents.**

**Publications supported by the Tobacco Industry Research Grant during the past year:**

**Spontaneous Regression of Tumors Produced by Methylcholanthrene in the Skin of Fowls - published Scientific Proceedings of the First Pan American Cancer Cytology Congress**

**The Respiratory System in the Normal White Pekin Duck - submitted to The American Journal of Anatomy**

**Papers referable to smoking either published or accepted for publication during past year:**

**A Consideration of Smoking and Cancer of the Lung with a Review of the Literature. Southern Medical Journal 50:524-532, 1957**

**Smoking and Disease. A Study Based upon 12,050 Individuals. Texas Reports on Biology and Medicine 16:116-132, 1958**

**Cancer of the Lung from 1900 to 1930. A Historical Review. Accepted Surgery, Gynecology & Obstetrics, December, 1957.**

Signature /s./R. H. Rigdon  
Director of Project

/s./E. D. Walker  
Business Officer of the Institution

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